

## Message

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**Subject:** Flint clips, March 27, 2018

**Flint Clips****US EPA Region 5 – prepared by the Office of Public Affairs****Flint clips, March 27, 2018****Detroit News****Va. Tech expert: Mistakes made in Flint water switch****NBC 25****Dr. Marc Edwards takes the stand against MDHHS director****Detroit News****Study: Lead in Flint kids' blood drops to historic low**

<https://www.detroitnews.com/story/news/michigan/flint-water-crisis/2018/03/26/flint-children-lead-blood-levels-historic-low/33306691/>

**Va. Tech expert: Mistakes made in Flint water switch**

*Mike Martindale, The Detroit News* Published 6:25 p.m. ET March 26, 2018 | Updated 8:26 a.m. ET March 27, 2018

*Correction: This story has been updated to reflect the correct spelling of Flushing 67th District Judge David Goggins' name..*

*Flushing* – The Virginia Tech researcher who uncovered elevated lead levels in Flint's drinking water testified Monday that he felt mistakes were made during the switch in the city's delivery system from Lake Huron to the Flint River.

Marc Edwards said his research group was "shocked" when members were not able to find higher levels of Legionella pathogens in houses around Flint.

Edwards testified in the district court case involving Nick Lyon, the state Health and Human Services director, who is charged with involuntary manslaughter linked to the Flint water crisis.

Edwards, an environmental engineer, was called to testify before Flushing 67th District Judge David Goggins. Edwards is also expected to testify Tuesday in the case of state Chief Medical Executive Eden Wells in Flint District Court.

Both Lyon and Wells are similarly charged in relation to the 2014-15 Legionnaires' disease outbreak in the Flint area that killed 12 and sickened another 79 individuals.

The prosecution says the Flint water switch in April 2014 helped create the conditions for the Legionnaires' outbreak. Wells is accused of helping to kill at least two individuals by failing to warn the public about the Legionnaires' outbreak.

Edwards, called by the defense in an effort to raise questions on whether some findings were exaggerated, testified for more than four hours Monday.

"... if federal guidelines had been followed to begin with, there wouldn't have been any issues," said Edwards, referring to a series of events involving water pumped into Flint homes beginning in 2014.

The Flint water crisis began when the city's water supply was contaminated with lead in April 2014, when a state-appointed emergency manager switched the source of the city's drinking water supply from Lake Huron to the Flint River. When the move was made, the Michigan Department of Environmental Quality did not require adequate corrosion-control chemicals to treat the water, causing lead to leach from joints, pipes and fixtures

In spring 2015, Edwards did testing of the water of Flint resident Lee-Anne Walter and found elevated lead levels he had not seen in 25 years. So he assembled a team of Virginia Tech researchers, took them to Flint to test the water, set up a website and paid \$150,000 out of his own pocket to do the work.

He also dug up documents showing that state leaders knew in the summer of 2015 there was lead contamination in Flint's water. Edwards testified before Congress in March 2016 about the Flint crisis.

Edwards has leveled criticism towards others who researched the problem. In January, Lyon's attorney Chip Chamberlain attempted to show that Edwards disputed the findings of Wayne State University researcher Shawn McElmurry that testing of home water filters was needed to determine the levels of Legionella bacteria.

Under questioning by another attorney for Lyon, Britt Cobb, Edwards reiterated his testimony Monday.

At one point Monday, Edwards indicated that Legionella levels were lower than might be expected of Flint or even a larger city. Edwards — who helped McElmurry obtain research grants — said subsequent studies should have focused on "large buildings, like health facilities, rather than houses."

Edwards noted that Legionnaires' disease was discovered at large health providers, including two Flint hospitals.

In a related development, the Journal of Pediatrics published research Monday that showed blood lead levels in Flint's young children hit an all-time low in 2016. That news implied that city and state efforts – including advising residents not to drink tap water – paid off after water was switched back to the Detroit water system.

Researchers led by Edwards showed last September that federal standards were being met. Testing of 138 Flint homes showed an average lead reading in August of 8.3 parts per billion, below the federal standard of 15 parts per billion.

The August results followed a November 2016 finding of 8.4 parts per billion.

<http://nbc25news.com/news/local/dr-marc-edwards-takes-the-stand-against-mdhhs-director>

## **Dr. Marc Edwards takes the stand against MDHHS director**

by Joel Feick  
Monday, March 26th 2018

FLUSHING, Mich. - The professor who some called 'Flint's white knight' for helping to expose the water crisis was in a Genesee County courtroom today.

Dr Marc Edwards of Virginia Tech, testified for the defense in the preliminary exam of DHHS director Nick Lyon.

Dr. Edwards says he originally came to Flint to do what the EPA and the DEQ wouldn't do: Citizen water testing that found high levels of lead in the city's water supply.

In day 20 of the hearing, Edwards, in his signature animal print tie, says he's dedicated his life to drinking water issues.

In 2015, Flint resident Leanne Walters contacted him about high lead levels in her home.

Edwards had Walters test the water and send it to him.

He told the court he found 'horribly high lead levels' in her water, the highest he'd ever seen.

Edwards says he was surprised when he did Legionella testing in homes in Flint, that he didn't find high levels.

But Edwards says Legionella bacteria were found in large buildings like hospitals.

Earlier a Wayne State Professor Scott McElmore says he found a Legionella plume in Flint.

Edwards had dispute with that study, saying that's 'absurd'.

Afterwards we asked him if Lyon should be held criminally responsible for people who died from Legionnaire's disease, for not speaking up sooner.

"My personal opinion is that Mr. Lyon was not the one telling lies he was guilty certainly perhaps of believing people who were misleading. You know there were deaths associated with Legionella outbreak, someone should pay a price for that I do believe that," said Edwards.

Edwards will testify in another Flint courtroom Tuesday, this time being called by the defense in the case against the state's medical director Dr. Eden Wells.

<https://www.detroitnews.com/story/news/michigan/flint-water-crisis/2018/03/26/flint-children-lead-blood-levels-historic-low/33306691/>

## **Study: Lead in Flint kids' blood drops to historic low**

Karen Bouffard, The Detroit News Published 6:24 p.m. ET March 26, 2018

The amount of lead in the blood of Flint's children dropped to a historic low in 2016 after action was taken in response to the city's water crisis, according to a University of Michigan study published Monday in the Journal of Pediatrics.

Researchers analyzed lead concentrations of 15,817 blood samples of Flint children 5 years old and younger over an 11 year period, including before, during and after the city's use of corrosive Flint River water.

According to the study, the average blood level for Flint children reached an all-time low in 2016 of 1.15 micrograms per deciliter, decreasing from 2.33 in 2006. The average blood lead level in 2015, during the height of the city's lead-tainted water crisis, was 1.3 micrograms per deciliter — up from 1.19 in 2014, when the city began using the Flint River as its municipal water source.

"There shouldn't be a reaction such as 'Oh, goodie, it's the lowest levels ever in Flint, what a wonderful thing, let's just back off now,'" said lead author Hernan Gomez, an associate professor in the department of emergency medicine at UM, on Monday. "That would be just horrendous.

"Infrastructure issues clearly need to be addressed. There were a couple of silly decisions, the lack of (anti-corrosive chemicals) and the like, that were not carefully planned. I would expect a responsible government to fix the infrastructure that was damaged."

The percentage of Flint children with blood lead levels over 5 micrograms per deciliter — the level at which the Centers for Disease Control and Prevention recommends public health actions — declined annually

beginning in 2006, when 11.8 percent of kids tested had positive results. By 2013, positive lead tests reached a historic low of 2.2 percent.

After officials failed to properly treat Flint River water with anti-corrosive chemicals, the percentage of positive blood lead level tests inched upward to 3.3 percent in 2014 and to 3.7 percent in 2015.

Flint used river water from April 2014 until October 2015, when the city was moved back to Detroit's system following an outbreak of Legionnaires' cases and evidence of elevated levels of lead in the city's children.

The percentage of positive tests declined to 3.2 percent in 2016 after the city brought in bottled drinking water and instructed residents to use filtered water for drinking and cooking. The city also began its efforts that year to remove residential lead service lines. Through 2017, more than 6,200 properties have had their lines replaced.

According to Gomez, the results show that corrective actions taken in Flint significantly reduced the number of Flint children with high blood lead levels. Gomez, also a pediatrician and emergency doctor at Flint's Hurley Medical Center, said those efforts should continue.

"It's unacceptable that any child was exposed to drinking water with elevated lead concentrations," Gomez said. "There is no known safe blood level of lead, and the ultimate public health goal is for children to have zero amounts of lead in their system."

Dr. Mona Hanna-Attisha, director of the Pediatric Public Health Initiative and Pediatric Residency Program at Flint's Hurley Medical Center, said the study's findings are consistent with other research. But data from lead screening tests "massively underestimate" the number of Flint children exposed during the crisis.

Lead screening rates were extremely low in Flint prior to the water crisis, with only 40 percent of children on Medicaid being tested, she said. Since the lead poisoning problem was underestimated, many Flint parents didn't think they needed to get their children tested.

Among children who were tested, some would have gotten negative results, even if they were exposed to lead, she added. That's because blood tests can only detect lead if the child was exposed within the previous 28 days.

Hanna-Attisha's own research uncovered the problem of lead poisoning in Flint children following the water switch. High blood lead levels can lead to developmental problems, behavioral disorders and learning difficulties, so the exposure in any child is concerning, she said.

"Lead is bad, all sources are bad, even though we had higher levels before, it's still bad," Hanna-Attisha said Monday. "I feel I need to say it one million times in one million different ways."